

## Claims

What is claimed is:

1. A method of operating a distributed processing system to provide network attached storage (NAS) services, comprising:
  - 5 configuring a client agent program to have a software-based NAS component and to take advantage of unused or under-utilized resources of a plurality of network-connected distributed devices put into operation for purposes distinct from operating the client agent program to provide NAS services; and
  - 10 utilizing the plurality of distributed devices running the client agent to provide NAS services to network-connected user devices, the network-connected user devices recognizing at least a portion of the plurality of distributed devices as dedicated NAS devices.
2. The method of claim 1, wherein at least a portion of the plurality of network-connected distributed devices operate only as stand-alone dedicated NAS devices without knowledge of other NAS devices connected to the network.
3. The method of claim 1, wherein at least one of the network-connected distributed devices stores location information for data stored by the plurality of network-connected distributed devices.
4. The method of claim 3, further comprising utilizing at least one of the distributed devices storing data location information to receive data storage and access requests from the user devices and to direct the user devices to the distributed devices storing the requested data.
- 25 5. The method of claim 4, wherein the plurality of network-connected distributed devices provide NAS services without relying upon a centralized server system.
6. The method of claim 1, further comprising managing the NAS services provided by the plurality of network-connected distributed devices at least in part utilizing at least one centralized server system.
- 30 7. The method of claim 6, wherein the server system downloads the NAS component to the plurality of network-connected distributed devices, the NAS component configured to operate as part of the client agent program already installed on the distributed devices.

8. The method of claim 6, wherein the centralized server system stores location information for data stored by the plurality of network-connected distributed devices and at least in part directs the user devices to the distributed devices storing the requested data.

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9. The method of claim 8, further comprising utilizing the server system to receive data storage and access requests from the user devices and to allocate data storage and access workloads to the plurality of distributed devices based upon individual capabilities of the plurality of distributed devices, the individual capabilities being stored in a database by the server system.

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10. The method of claim 9, wherein plurality distributed devices are connected to the Internet.

11. The method of claim 1, further comprising managing storage resources for the plurality of distributed devices using a storage priority control that facilitates full use of available storage resources.

12. The method of claim 11, wherein the storage priority control comprises a parameter selectable through the client device.

13. The method of claim 11, wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion.

14. The method of claim 11, wherein the storage priority control comprises a priority marking directly given to data or files.

25 15. A distributed processing system providing network attached storage (NAS) services, comprising:  
a client agent program configured to have a software-based NAS component and to take  
advantage of unused or under-utilized resources of a network-connected distributed  
device put into operation for purposes distinct from operating the client agent program to  
provide NAS services; and  
30 a plurality of network-connected distributed devices running the client agent program to provide  
NAS services to network-connected user devices, the network-connected user devices  
recognizing at least a portion of the plurality of distributed devices as dedicated NAS  
devices.

16. The distributed processing system of claim 15, wherein at least a portion of the plurality of network-connected distributed devices operate only as stand-alone dedicated NAS devices without knowledge of other NAS devices connected to the network.

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17. The distributed processing system of claim 15, wherein at least one of the network-connected distributed devices stores location information for data stored by the plurality of network-connected distributed devices.

10 18. The distributed processing system of claim 17, wherein the distributed devices storing data location information is configured to receive data storage and access requests from the user devices and to direct the user devices to the distributed devices storing the requested data.

19. The distributed processing system of claim 18, wherein the plurality of network-connected distributed devices provide NAS services without relying upon a centralized server system.

20 20. The distributed processing system of claim 15, at least one centralized server system managing at least in part the NAS services provided by the plurality of network-connected distributed devices.

21. The distributed processing system of claim 20, the NAS component is configured to be downloaded from the server system to the plurality of network-connected distributed devices, the NAS component configured to operate as part of the client agent program already installed on the distributed devices.

25 22. The distributed processing system of claim 20, wherein the centralized server system is configured to store location information for data stored by the plurality of network-connected distributed devices and at least in part to direct the user devices to the distributed devices storing the requested data.

30 23. The distributed processing system of claim 22, wherein the server system is configured to receive data storage and access requests from the user devices and to allocate data storage workloads to the plurality of distributed devices based upon individual capabilities of the plurality of distributed devices, and further comprising a capabilities database connected to the server system and storing capability parameters for the plurality of distributed devices.

24. The distributed processing system of claim 23, wherein plurality distributed devices are connected to the Internet.

5 25. The distributed processing system of claim 15, further comprising a storage priority control associated with the storage resources for the plurality of distributed devices, the storage priority control configured to facilitate full use of available storage resources.

10 26. The distributed processing system of claim 25, wherein the storage priority control comprises a parameter selectable through the client device.

27. The distributed processing system of claim 25, wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion.

28. The distributed processing system of claim 25, wherein the storage priority control comprises a priority marking directly given to data or files.